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ANÆSTHETICS IN VETERINARY PRACTICE.

Letters and paragraphs have recently appeared in the daily papers comparing operations on animals with those performed on man, and arguing that as chloroform is cheap there is no reason why it should not be used equally in veterinary practice as in human. This is not quite fair either to owners of animals or to veterinarians. As a matter of fact most of our major operations are now performed under chloroform, and those which only occupy a few minutes are not denied chloroform on account of its price. Quite half the pain of any operation is due in man to the anticipation of torture which few minds are able to avoid. In the excitement of war horrible wounds are sustained with almost total absence of pain, and in the ordinary street fight less feeling is experienced at the loss of four or five teeth than at the extraction of a single one in the dentist's chair.

The lower animals can have none of the painful apprehensions of an operation which cause such dread in man. The mere act of securing and fixing them doubtless causes some terror, but this is as unavoidable when chloroform is used as when it is not. If struggling be any evidence of terror or pain the first few minutes of chloroform administration must be very unpleasant to animals, and this period is frequently more prolonged than the time necessary for completing the whole operation without chloroform. This matter of time is a serious consideration to the practitioner. To administer chloroform and to wait until the animal is quite recovered from the anæsthesia means in most cases more than doubling the time occupied, and the busy practitioner cannot afford to make his client a present of this. The cost of chloroform is little, the value of the time spent in administering it is considerable, In serious or lengthy operations the operator cannot attend to the chloroform, and another qualified man must be employed and paid.

Another item must be considered. The human surgeon for any major operation is well paid—as he deserves to be. The veterinarian is seldom paid more than a guinea, and unless his client is willing to increase the fee extra time and extra expense is thrown upon him. If chloroform is to be more generally used the owners of animals must pay for extra time and labour; they must also face the risks which attend anæsthesia.

The performance of painful operations upon animals without chloroform is now permitted by law to anyone—qualified or not. Horses' teeth may be extracted, limbs may be cut and "fired," ovaries and testicles removed by anyone who cares to operate. The law forbids working a horse with a small sore on his skin or with a stiff leg; it forbids the prick of a needle if done for the elucidation of disease, but it permits the most abominable cruelty to be inflicted if the torturer says he did it to cure disease or to further agriculture.

To accuse veterinarians of cruelty for not more constantly using chloroform is unjust, to suggest that the price of the drug has anything to do with it is merely ignorance and impertinence. When unskilled persons are prohibited from inflicting pain on animals in pursuance of their notions of cure or simply for the sake of gain, then it will be time to insist upon professional men using chloroform unless there are good reasons in any individual case for abstaining.

SHOW FORM.

The benefit which results from shows of animals is very great. Not only is a healthy rivalry established amongst breeders and encouragement given to the art of breeding, but standards of excellence are fixed and a useful educational process is set in motion. The exhibitors are encouraged and the spectators taught to appreciate the higher types of form and usefulness.

A little paragraph about a bulldog which we take from an American paper suggests that there is another side of the picture which is often overlooked. It relates how a prize dog was accused of inability to walk a few miles and how, when it was tried, it broke down most miserably—conformation and appearance had been cultivated at the expence of utility. Probably this fault of shows is more pronounced where dogs are concerned than at any other exhibition of live stock, but it must be admitted that it applies to exhibitions of all animals. Fox-terriers have been cultivated for the show-bench until they have become almost useless for work. Pigs are shown in such a state of obesity as to be impotent and sterile. Horses are judged by their looks and not even tested as to their fitness for the work they are supposed to excel in. Size and strength in cart horses are made subsidiary to quality and prettiness, and action is only thought worthy of a prize when it is exaggerated and sensational; even in hack classes action which shakes a man out of the saddle is treated as not inconsistent with prize form. This is a serious evil which should be discouraged, and utility in working animals should be more prominently recognised.

CASES AND ARTICLES

POISONING OF CATTLE BY THE PERCHLORIDE OF IRON.

By E. Wallis Hoare, F.R.C.V.S., Cork.

The following cases may prove of interest to readers of *The Veterinary Record* as being of rather rare occurrence in veterinary toxicology.

On December 3rd, 1892, I was asked by a farmer to come and attend his cattle immediately, as a large number were affected in a peculiar manner since the previous day, and one had already died.

On arriving at the farm, a journey of about seven miles, I found two milch cows in the field, unable to rise, apparently in great pain, with total loss of appetite and obstinate constipation; pulse quick and weak, respirations hurried. There were about ten cows in the cow shed, all showing symptoms of prostration, almost total loss of milk and no appetite.

The history was of little value. According to the owner's statement the cattle were housed the previous night in perfect health, and received the usual feed of roots, etc. Next morning the attendant, when going at the usual hour to drive the animals to pasture, noticed them dull and heavy looking and disinclined to feed. After a short time three of the cows laid down, and the following night one of the animals died, the remainder had not risen since.

The owner very wisely gave all the animals a dose of mag. sulph., which was commencing to act on my arrival, but strange to say the evacuations were as black as ink.

On making a post-mortem examination of the cow that died, I found that the fourth stomach was thickened and perfectly black in colour, and some portions of the mucous membrane showed patches of erosion. The intestines were slightly congested, and the contents were of a black colour.

Another of the cows died that night, and the post-mortem examination showed a similar condition, but much more marked, as in this case the contents of the intestines were fluid and similar in appearance to ink.

The contents of the stomachs were submitted to Mr. Farrington, F.C.S., for analysis, whose report was as follows:—"An abnormally large proportion of iron was found present, also chlorine in very large amount, this makes it probable that the iron was ingested as chloride, the quantity of sulphuric acid present being too small (a mere trace) to give any evidence of copperas being present. A quantitive analysis of the ash from two ounces of the muddy liquid, yielded iron oxide in the proportion of 111 grains per 2½ gallons. The above amount of iron oxide is equivalent to 226 grains of iron chloride, 386 grains of copperas or 28½ drachms of "Ferri Perchlor."

NOTES FROM CASE BOOK.

By Frank G. Ashley, F.R.C.V.S.

Intestinal Hæmorrhage.

I was requested to see a seven-year-old bay cart gelding, in good condition, which had been at hauling work on previous day, but this morning was found to lie down occasionally as if in subdued pain, and was not feeding. The owner had attempted to give him a drench, but he twice fell over backwards when the head was held up.

I found him standing quietly over a bran mash, his pulse was 60 and of good tone, ears and legs of unequal temperature, respiratory action a little disturbed, conjunctival membrane of a normal colour, internal temperature 100F. On having him led out for inspection I noticed he planted down each leg very automatically, carried his head erect and ears forward, and altogether made me suspicious that he could not see; and on examining the eyes I found both pupils widely dilated, and no response until the cornea was touched. On rectal examination I found the fœces semi-solid, of a black colour throughout, and of a very disagreeable odour; I learnt that he had passed two motions of a similar colour and consistence, which the owner attributed to his having received a lot of hayseeds with his corn in place of normal cut hay. I dissolved some of the fœces in water and found the discolouration due to altered blood.

Later same day I again saw this patient who was eating fairly well, his temperature was 101F, pulse 80 and not quite so good tone, respirations greatly accelerated, conjunctival and mucous membrane of mouth blanched; fœces of similar colour and consistence.

Next day. A fair appetite present, thirst rather abnormal, mucous membranes much blanched, still passing discoloured fœces, gait unsteady, pulse 100 and of fair volume, internal temperature 102F, respirations quiet, ears and legs cold; he occasionally lies down.

Following day. Inability to control muscular movements of hind extremities; fair appetite, and drinks milk freely, pulse 110 and of fair volume, respirations quiet, internal temperature 102F.; has been up and down several times during the night, fœces still very dark and fœtid.

Later. Animal rolls greatly on moving, covered with hot perspiration, pulse 90 and weak, fœces black; eats a little from the hand and drinks milk; mucous membranes of ghastly white colour, ears and legs cold, respirations a little accelerated; eyes staring, pupils widely dilated and completely blind in both eyes; purging, the owner having given him some linseed oil. Shortly after he went down and struggled violently, eventually dying at 9 p.m.

Post-mortem on following day; rigor mortis well set in; all internal organs healthy, but literally drained of blood; small intestines were quite blanched and devoid of contents, large bowels contained some fœces similar to those passed during life; heart contained a fibrinous clot. No worms detected in bowels or blood vessels.

MUCO-GASTRO ENTERITIS IN CATTLE.

By A. Levie, F.R.C.V.S., Thornhill, Dumfriesshire.

There are few non-contagious diseases which involve a greater loss to stockowners than muco-gastro enteritis, and as very little specially written on this subject is to be found in text books I may be pardoned in writing the following, not that I imagine I shall be able to adduce anything new, but rather to bring it before the profession generally that others having a longer practical experience may, through the medium of *The Record*, give their views, and thereby benefit the profession at large.

My observations have been confined to store bullocks and milch cows, and I believe the predisposing causes to be—in store bullocks, weather; and in dairy cattle, parturition. In bullocks this disease is more frequent in the early spring, and being wintered outside I am of opinion the cold and wet combined, materially aid in giving rise to the disease by lowering the vital force and so interfering with the powers of digestion. In dairy cattle, from the physiological changes which the system is undergoing at the period of parturition, digestion is more easily upset.

In old grass fields, many of which are very fertile, and often not sufficiently stocked to keep cropped short, the grass here and there all over the field being left in patches, grows to a considerable length, becomes wild and coarse. By the heat of the sun in the early part of the year and by frost towards the end of autumn, this grass is deprived of its nutritive properties and becomes an innutritious, indigestable, irritating substance. Though I have met with these enteric cases in winter, they are more frequent in spring, and it is when the young grass is shooting up amongst this innutritious substance that stock are so liable to receive harm. Thus in pulling the fresh sweet bite offered them from amongst the old withered foggage, it is impossible but that they will prehend a considerable quantity of the latter. It is this which I believe to be a frequent factor in the production of this disease, coupled with the fact that these animals are also receiving cotton cake, rape cake or similar feeding stuffs.

In dairy stock I find this disease most frequent between the 3rd and 10th day after parturition and I am of opinion the digestive power of the stomach is more easily interfered with now than later on, (1) from the system undergoing a change at this period, and (2) the animals prior to calving have not, as a rule, been receiving meals of any kind but more succulent matter as turnips, whilst immediately after parturition they are put on mashes—often in large quantities, and possibly not sufficiently soaked in hot water. This food consists of bran, peasly meal, Indian meal, cotton seed meal, palm nut meal, and bean meal—of this last I have known one cow to receive nine pounds per day—with other food.

Believing these materials when taken in excess to give rise to muco-gastro enteritis, and before considering how they give rise to this increase, it will be as well to remember that the preliminaries of digestion commence in the mouth where the food should be subjected to trituration, mechanically softened and chemically changed by the saliva, preparing it to enter the stomach to be converted into chyme and rendered capable of absorption into the blood vessels and lacteals. That the rumen and reticulum are principally engaged in the function of rumination, and that the food having undergone this process is passed into the abomasum, except that portion which goes to the omasum to undergo a still further trituration, in order that no nutritive matter may be lost and possibly to render, so far as nature is able, any indigestible material more digestible, that the nitrogenous matter is dissolved by the gastric juice, the fatty matter thoroughly mingled with the other constitutents of food, and in a small degree starch changed into sugar.

Bearing in mind these facts we can the more easily understand why anything entering the stomach which I may call foreign, should give rise to this disease. In my opinion so long as these somewhat indigestible ingredients are not taken in too large quantities the digestive powers are quite competent to meet the work given them to do, but in the event of the work being in excess of what the organs are able to perform, the natural result is interference with digestion and yet not necessarily impaired appetite. The animal still feeds for a time, but complete loss of appetite follows and paralysis of the organs from exhaustion, brought about by the amount of food lodged in them which they are unable to get rid of. This food soon undergoes changes, acts as a foreign substance, and being in such close contact to living structure, gives rise to irritation, to be followed by congestion, inflammation and effusion.

A similar action may be going on in the small intestines, either by extending from the fourth stomach or by some of this irritating material passing into them.

The duration is about 10 days.

Symptoms. They manifest a diverse degree of intensity. In some cases a day or two may elapse ere the disease is pronounced; of course this will much depend on the nature of the irritant which is giving rise to it. In most cases the disease is ushered in by rigors; the subject, if out of doors, is isolated from its companions, may be lying or standing; if standing all drawn together, dull, head depressed; very stiff in walking, and a distinct grunt is heard in moving along; loss of appetite, stoppage of rumination, great heat in mouth, the mucous membrane of which is a bright pink; frothing slightly, muzzle dry, watery discharge from eyes and nose, which as the disease advances may become muco-purulent; coat staring, horns and ears alternately hot and cold, legs cold. The rumen on manipulation usually contains a large amount of solid matter, showing digestion has been interfered with for some time. The bowels are constipated from the first, the fæces dark, and glazed on the surface; passing hand per rectum gives rise to a considerable amount of straining; urine highly coloured. In milch cows stoppage of lactation. Pulse varies from 70 to 120 per minute; temperature 103 to 107F. In a day or two a distinct purple line forms round the lower jaw immediately below the incisors.

Never have I seen the slightest signs of brain disturbance, even in cases of unusual long standing.

Treatment. In my experience if this disease is not attended to early the chances are it will have a fatal termination, and this liability increases with the length of time before treatment is adopted, but with proper nursing and medicine—if before effusion has taken place—in most cases a favourable result may be expected. My mode of treatment is to give in the rigor stage a bold stimulant followed immediately by a mild saline purge. Should it not act is not to be repeated, for instead of benefitting it then appears to me to lower the vital powers. The other medicines to give are sedatives, febrifuges, and alkalies. Provide the animal with plenty of diluents and demulcents. No solid food to be given till the bowels are acting freely, and even then it is better to wait a day or two; and when given it must be in small quantities and as easy of digestion as possible to obtain.

Post-mortem lesions. These are usually confined to the stomachs and duodenum. The rumen contains a large amount of food having a pungent odour. The reticulum, food and fluids. The omasum, food of the same nature which is dry and hard. The mucous membrane of these three pouches is congested, having extravasations on its surface and can be easily stripped from its attachments.

The abomasum contains a more liquid half digested material. The mucous membrane is of a deep venous colour. The submucous tissue is much thickened, an effusion of about ¼ inch having taken place in it. The muscular coat is darker than normal. The lesions in the duodenum are similar to those in the abomasum.

Royal College of Veterinary Surgeons.

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FitzWygram Prize Competition.

Eight candidates entered for these prizes. The theoretical portion of the examination was held in London and Edinburgh on the 22nd June. The practical and *vivâ-voce* was held at the Royal Horse Infirmary, Woolwich, on the 7th July.

At the theoretical examination in Scotland one candidate failed to attend, and in London one candidate retired at anatomy.

The following is the sesult:—

M. Hutchinson, First Prize £50, New Veterinary College, Edinburgh.

H. G. Bowes, Second Prize, £30, New Veterinary College, Edinburgh.

J. P. Stewart, Third Prize, £20, Dick Veterinary College, Edinburgh.

The examiners were Vet.-Capt. F. Raymond, and Professor W. A. Edgar.

Arthur W. Hill, *Hon. Sec.*

NATIONAL VETERINARY ASSOCIATION.

The Requisite Inspection of Animals intended for Food, prior to and after death, with the most humane modes of slaughter.

By Professor M'Fadyean, M.B., B.Sc., F.R.S.E.

Read before the Eleventh General Meeting of the National Veterinary Association, Manchester, July 26th, 1993.

Part I.—Modes of Slaughter.

Every right-thinking person must admit that it is man's solemn duty to take care that no unnecessary pain is inflicted in taking the lives of animals destined for human food. Of course in this sentence much depends on what is meant by the word unnecessary. We can conceive of methods of killing animals that would be

well nigh painless, as, for example, by chloroform narcosis or carbonic acid poisoning; but even if such methods were free from objection on the ground of injuriously affecting the meat as an article of diet, the most humane person would hardly contend that the trouble and expense of carrying them out do not relieve us from the duty of adopting them. The most sensitive conscience will probably be satisfied when assured that the pain inflicted in the act of killing is momentary, or at least of very brief duration.

It may, therefore, be laid down at the outset, that in deciding what mode of slaughter is the best, our choice ought to be restricted to methods that entail sudden loss of consciousness, and therefore only momentary pain. If a number of such methods stand at our disposal, then our preference ought to be given to that which is the simplest in execution, the least expensive, the least injurious to the carcase, and the least liable to miscarriage or accident. In the light of these general principles let us briefly pass in review the methods of slaughter that are commonly practised, or that have been recommended.

Cattle.

1. *Stunning, followed by Bleeding.*—This is by far the most common method of slaughter among civilised people at the present day. The animal is first stunned or felled by a blow delivered on the cranium, and the large vessels at the root of the neck are then opened with the knife. A variety of instruments are in use for accomplishing the first of these steps, those most commonly employed being the common pole-axe, a heavy mallet or hammer, and the Bruneau mask.

The pole-axe is an instrument too well known to require any description. The method of using it is as follows. In some slaughterhouses a rope is fastened round the horns or neck of the animal, passed through a ring in the wall, and drawn tight so as to steady the animal's head; in others the blow is delivered without the preliminary tying up. The operator, standing at the level of the animal's shoulder, brings the handle of the pole-axe well back over his own shoulder, seizes a favourable moment when the head is still and delivers a blow with all his might on the middle of the forehead. If the blow is properly delivered the cylindrical part of the pole-axe is driven through the frontal bone into the cerebrum, and the animal immediately drops. There can be no doubt that the loss of consciousness is immediate, and the pain only momentary, but forcible irregular movements on the part of the limbs are generally executed after the animal falls, and these, to an uninstructed bystander, are apt to be taken for an expression of pain. It is a common practice to abolish this by passing a cane through the hole made in the cranium, and using that to break up the brain and upper part of the spinal cord. As soon as movement has ceased, or even before that, a large incision is made at the lower end of the jugular furrow, so as to divide the large vessels at the entrance to the chest.

Sometimes the operation is varied by delivering the blow over the occipital bone behind the line of the horns, or between that bone and the atlas. In this country the frontal region is almost always selected for the blow, but when animals are wild and there is a consequent difficulty in taking a good aim the occipital stroke is often practised. When the animal drops, one or more blows are delivered on the frontal region.

Instead of the pole-axe, a mallet, heavy hammer, or the blunt end of a common axe may be used, but in large slaughterhouses in this country these are seldom or never employed.

The Bruneau mask was invented in 1873 by M. Bruneau, of Paris. It consists of a leather mask to cover the forehead and eyes, and provided with straps to fasten it on the head. A steel plate is let into the middle or frontal part of the mask, and lies flat on the frontal bone when the mask is in position. This steel plate in turn is perforated mesially by a strong iron tube about 4½ inches long and nearly 1¼ inches in diameter, which is intended for the reception of a six-inch cylindrical iron bolt. When the mask is fastened in position the deep end of the bolt rests on the skin over the interfrontal suture, while the other end projects for an inch and a half from its tubular sheath. This outer end has the form of a flat roughened head, and when it is struck with sufficient force with a wooden mallet the deep end of the bolt is driven through the frontal bone into the cerebrum. The effect is, of course, just the same as when the perforation is made with the pole-axe, and if desired a cane may be passed through the opening in the skull and guided into the upper part of the spinal canal.

The advantages of this instrument over the pole-axe or mallet is obvious; there is much less risk of missing the proper spot in the skull, or miscalculating the force required, and this is especially the case when the operator is inexperienced. The disadvantage of the mask is that its application occupies a certain amount of time, and in the case of wild or excited animals is attended with some risk to the person attempting to put it on. When dealing with quiet animals, and when the instrument is handled by a man experienced in using it, the pole-axe is little, if at all, inferior to the Bruneau mask.

2. *Bleeding without previous Stunning.*—This method is occasionally practiced in killing animals that are already down and unconscious or unable to rise from disease or injury, in which case the large vessels are opened at the entrance to the chest, just as after ordinary pole-axing. It is also the method of slaughtering cattle enjoined by the Mosaic law, and practised by the Jews at the present day. The Jewish method of bleeding is as follows. The animal having been cast and placed on its back, the head is made to rest on the horns, and forcibly extended so as to make tense the structures on the lower (in the natural position) aspect of the neck. The priest or rabbi then takes a knife with a long straight blade, and as sharp as a razor, and by means of a rapid sawing motion he severs all the textures of the neck down to the vertebral column. There are thus divided not only the great vessels of the neck, but also the windpipe and gullet. There are few sights more revolting than this Jewish method of slaughter. Needless to say, the animal retains consciousness until a large quantity of blood has escaped (one to two minutes), and its struggles during that time—struggles that are obviously caused by pain and terror—are most painful to witness. The flesh of animals killed in this way contains little blood, and its keeping qualities are therefore good, but that is an advantage which, at least in the eyes of a Christian, cannot for a moment be weighed against the manifest cruelty of the operation.

"*Pithing.*"—This is the method of slaughter practiced in Madrid, Barcelona, St. Petersburg, and one or two French towns. The butcher stands in front of the animal, depresses its nose with the left hand, and thrusts a poignard-like knife into the space between occiput and the atlas, severing the cord at its junction with the medulla. The animal instantly drops, and it is then bled. Absolutely nothing can be said in favour of this method. It demands a large amount of skill and experience on the part of the operator, it is attended with more danger to the operator, and it is doubtful whether loss of consciousness is instantaneous. Besides, it is said that animals thus killed do not bleed well.

Shooting.—This is sometimes practiced in slaughterhouses by means of Siegmund's pistol mask. That has a headpiece somewhat similar to the Bruneau mask, but carries in its frontal part a pistol barrel, loaded with a ball. The pistol is discharged by means of a slight

stroke with a hammer. The objections to this instrument are that it is more complicated and expensive than the Bruneau mask or pole-axe, that it carries a certain amount of danger (through accidental discharge) to those working with it, that in large slaughterhouses the repeated detonation is apt to alarm and excite the animals waiting to be killed, and that the ball sometimes ploughs its way for a long stretch from the skull and thus disfigures and injures the carcase. Bleeding is, of course, necessary after the animal has dropped.

Calves, Sheep, and Pigs.

These are almost invariably killed by bleeding without previous stunning. Sometimes, in the case of sheep, after the throat has been cut the head is forced backwards and the spinal cord is severed by passing the point of the knife into the occipito-atlantal joint from below. Pigs are usually bled in the same manner as cattle after having been stunned with a mallet, hammer, or club; but not rarely the latter step is omitted. Kleinschmidt has invented an instrument, on the principal of Bruneau's apparatus, for use in stunning calves, sheep, or pigs. The sheath that carries the bolt is fixed at the end of a handle, instead of forming part of a headpiece, and while this is held over the forehead the bolt is struck with a mallet. It is difficult to recognise in this instrument any advantage over the ordinary club or pole-axe.

One cannot help being struck with surprise at the small amount of attention that has been given to the methods of slaughtering the smaller animals, compared with that which has been devoted to introducing more humane methods of killing cattle. There can be no doubt that if butchers in this country were to give up the use of the pole-axe in favour of the Jewish method of killing cattle a public outcry and probably an Act of Parliament would soon compel them to revert to the more humane procedure, and yet public opinion placidly permits butchers everywhere to kill sheep by a method which differs in no material way from the Jewish one. It seems as if people naturally fell into the belief that the sufferings from any given injury must be proportional to the animal's size. The killing of an elephant by cutting its throat in full consciousness would, if measured by the volume of blood that escaped and the struggles of the animal, be a more revolting sight than the slaughter of a sheep in the manner practised daily in our abattoirs, but there is not the least reason to suppose that the smaller animal would suffer any less agony than the larger one. On this matter it is scarcely possible to come to any other conclusion than that butchers adopt a more humane method of killing cattle mainly because of its convenience and safety to themselves. How can we otherwise explain the fact that adult cattle and pigs are generally killed by a comparatively painless method, while the inoffensive sheep and calf are subjected to a mode of death that entails needless suffering? It is no doubt true that when death results from hæmorrhage pure and simple less blood is left in the body than when the animal is first stunned and then bled; but a few ounces of blood left in the carcase of a healthy animal need not, except by a Jew, be regarded as in the least detrimental. Besides, if a pig can be sufficiently bled while unconscious, it may be accepted as certain that a sheep can also.

The kingdom of Saxony has in this matter set an example which other civilised nations would do well to follow. By an order issued on the 21st March, 1892, it is decreed as follows:—

1. In the slaughter of all animals, except poultry, bleeding must be preceded by stunning. This law does not apply to the necessary slaughter of animals on account of accident or sudden disease, if in the actual circumstances the stunning cannot be carried out.

2. In the case of cattle the stunning must be carried out by means of the mask; but an exception may be made in the case of young animals.

3. Calves, sheep, and swine must be stunned by means of a blow on the frontal or occipital region; but the choice of the instrument is left to the butcher.

4. In all cases, save where owing to accident or disease the animal must be killed immediately, the slaughter must be carried out by an experienced person, or under his guidance and assistance; never by a learner by himself.

5. The slaughter of animals must be conducted in enclosed buildings not accessible to the public. Only when these are not available may animals be killed in the open, and even then the operation must not be visible from public places, streets, or highways. With the exception of apprentice butchers and assistants, no person under sixteen years of age shall be permitted to be present at the slaughter of animals in an abattoir.

6. Persons transgressing this regulation shall be liable to a fine of 150 marks, or imprisonment.

7. It shall be the duty of the local police to call the attention of butchers to the foregoing resolutions, and to intimate to them that an opportunity to learn the various methods of stunning animals, and the instruments used for the purpose, will be afforded at the slaughterhouses.

Part II.—The Requisite Inspection of Animals intended for Food, prior to and after Death.

Before proceeding to discuss what are the best methods of conducting the inspection of animals slaughtered for food purposes, it may be advisable to consider whether, and on what grounds, such inspection is required at all. It is not to be expected that any member of the National Veterinary Association will go so far as to contend that an absolutely free and uncontrolled traffic in butcher meat ought to be permitted. The daily press and the medical journals frequently bring under our notice instances in which animal flesh scandalously unfit for human consumption has been sold or offered for sale, even in places where an attempt is made to control the meat traffic; and it is easy to imagine the extent to which unwholesome meat would be sold if the present imperfect checks were withdrawn. In discussing the necessity for a sanitary control of the meat trade, there is no need to trench on the debatable ground of diseases that are in this connection only slightly dangerous, or perhaps not dangerous at all. We know that there are diseases of cattle, sheep, and pigs that render the flesh of these animals highly dangerous to those who consume it, or who even handle it. No one would have the hardihood to contend that when a farmer loses an animal from anthrax he ought to be at liberty to send the carcase to market, or that a butcher ought to be allowed to retail tubercle bacilli with the meat that he sells. Everyone must therefore admit that some sort of control is necessary, and that is admitting the whole case; at least there does not appear to be any logical middle course between a general system of inspection and no inspection at all, for unless meat is to be inspected everywhere there can be no guarantee that it is not dangerous. In one town or district there might be enforced a general and thorough system of inspection, but the effect of that might be in great measure nullified if dressed carcases were freely admitted from places where there was no inspection at all.

It has been objected by some that it is impossible, on the ground of trouble and expense, to carry out a system of general meat inspection, and it has been declared impracticable to control the meat trade in small towns and villages in the same way that it can be done in cities. These objections have not been supported by any solid

argument, and they appear to have been raised on the extravagant supposition that it would be necessary to build a large and expensive abattoir in every village that has or requires a butcher's shop, and to appoint in connection with it a skilled inspector of meat with a handsome salary. This, of course, is absurd. At all abattoirs where the number of animals slaughtered is sufficient to give employment to a meat inspector, one ought to be appointed; but in the case of very small towns and villages the local veterinary surgeon, without devoting his whole time to the work, could inspect all animals slaughtered for food, and that without materialiy adding to the rates.

If it is conceded that meat inspection is necessary in the public interest, the next question to be considered is —By whom is the meat inspection to be carried out? Before answering that question, or, indeed, by way of answering it, it may be well to consider what the inspection of meat, when properly conducted, really means. The main object of meat inspection is to exclude from the market all flesh of an unwholesome character. Such unwholesomeness of meat may be due—

1. To the presence of pathogenic bacteria capable of exciting specific diseases, such as anthrax or tuberculosis;

2. To the presence of animal parasites that naturally spend one stage of their existence in the human body, as, for example, the trichina spiralis, the cysticercus cellulosæ, etc;

3. To the presence of poisonous substances (albumoses, ptomaines) generated by bacteria. Such poisons may be generated in the living animal by pathogenic organisms, or in the tissues after death by saprophytic or putrefactive bacteria.

Thus, with the single exception of meat rendered dangerous by *post-mortem* change, the unwholesomeness of flesh is the consequence of disease in the animal furnishing it; and hence the inspection of meat mainly resolves itself into a search for the lesions or marks of particular diseases of the lower animals. Who is the proper person to conduct this search? Not, surely, the policeman nor the butcher, nor the medical officer, but the veterinary surgeon. No person who has grasped what is the object of meat inspection can entertain any doubt on the point. France, Germany, and other countries have settled this matter some time ago, and it is practically settled in this country too. A public body who at this date employs a policeman or a butcher as a responsible inspector of meat is guilty of a great outrage on common sense.

It may not be out of place here to point out that while it is the legitimate and natural function of the veterinary surgeon to act as the inspector of meat, that does not give him a title to determine whether any given disease renders the flesh of an animal affected with it unfit for human food. That is a totally different question, and one in the settlement of which the medical profession must naturally have a preponderating voice. If we are to have a system of general inspection of animals slaughtered for food, its introduction ought obviously to be accompanied by an authoritative tabulation of those morbid conditions that are to be regarded as rendering flesh unwholesome. The discussion of that matter, however, would be out of place in this paper, which has to deal only with the methods of inspection.

Inspection Prior to Slaughter.

Save in the case of foreign animals slaughtered at the port of debarkation, inspection prior to slaughter is nowhere carried out in this country. That, of course, is not surprising, considering that there are very few places where there is even *post-mortem* inspection worthy of the name. There can be no doubt, however, that *ante-mortem* inspection of animals to be slaughtered for food is a most valuable safeguard against the sale of unwholesome meat. It may be of interest here to quote the law on this point in the Grand Duchy of Baden. The regulations relating to meat inspection in that State ordain that cattle, horses, sheep, goats, and swine, must be submitted to the examination of a meat inspector both before and after slaughter, in every case in which it is intended to sell the flesh for human food. With this object, some hours' notice of the intended slaughter must be given to the inspector. The only admitted exceptions to this rule are animals killed by the owner for the use of his own household, and animals whose flesh would be rendered unfit for food if slaughter were not carried out immediately, *e.g.*, animals with wounds, fractures, sudden tympanites of the stomachs, parturition accidents, etc.

The wisdom of such a regulation is obvious. It might be said that a *post-mortem* inspection, if properly carried out, ought to act as a sufficicent safeguard, but we know that there are diseases and morbid conditions which, although very important as regards their effect on the fitness of the flesh for food, are not attended by any gross lesions in the carcase, especially when the slaughter is carried out before the animal is *in extremis*. No stronger proof of wisdom of *ante-mortem* inspection could be cited than the fact that most recorded cases of meat-poisoning have not been in connection with the flesh of animals killed in abattoirs, but through eating the flesh of animals slaughtered in emergency, or while at the point of death from disease. One thing appears certain, viz., that when an animal has not been submitted to an *ante-mortem* examination the inspection after death ought to be of an unusually searching nature; and if the carcase presents any evidence that the animal has been at the point of death before it was slaughtered, it ought to be condemned.

As regards the method of conducting the examination before slaughter, little need be said. When the inspection is conducted at an abattoir the animals ought to be allowed some hours to recover from the excitement or exhaustion commonly caused by exposure in a market, or by railway or steam-boat transit. The usual signs of health should be looked for, and, in the case of cattle, it would be well to make a practice of taking the temperature.

(To be continued)

EXTRACTS AND NOTES.

CHESNUTS v. MALLENDERS AND SALLENDERS.

Mr. Morgan Evans, writing to *The Field* draws attention to a strange mistake made by Professor Flower, and clears the reputation of Youatt from a most misplaced accusation.

"Sir W. H. Flower, in his admirable little work "The Horse a Study in Natural History," discusses the origin and nature of the "chesnuts" in the horse—those horn-like callosities found in the one case on the inside of the fore-leg above the knee, and in the other on the inside of the hind leg below the hock. He argues forcibly against the theory of some evolutionists, that these structures are the vestiges of aborted digits, nails or hoofs. He says "they obviously belong to a numerous class of special modifications of particular parts of the cutaneous surface which occur in very many animals, the use of which is in many cases remarkably obscure."

My object in writing, however, is to draw attention, to the inaccuracies contained in the following extract

from Sir William Flower's book: "These are the so-called 'chesnuts' or 'mallenders' and 'sallenders' as they are designated in old books. . . . Their structure, in fact, is just like a wart or corn, but they are not the result of pathological changes, though often treated as such in old books on veterinary surgery. Even so enlightened a writer as Youatt includes them among diseases, and prescribes remedies both external and internal for getting rid of them." I presume I need search no further back for an old work on veterinary surgery than Gervase Markham. In Markham's "Masterpiece Revived," published in 1688, I find the following (p. 238): "A mallander is a kind of dry scab growing in the form of lines or streaks overthwart the very tough or inward bend of the knee, and hath hard hair with stubborn roots like swine's bristles, which corrupteth and cankereth the flesh like the roots of a child's scabbed head." It is evident that this does not refer to "chesnuts," but to a well-known disease recognised to this day by the name of "mallenders." Again, in the second volume of Cavendish's "System of Horsemanship," published in 1743—this second volume being a translation of a work published by M. de Saunier in 1734—we are told (p. 52), "It has been already said that the seat of the mallenders is behind the knee, in the joint. I must add that the sallenders come over against the mallenders in the middle of the bend of the hough;" and a large plate (K) appears in the work showing the seat of the affection "behind the knee, in the joint," while high above the knee on the inside of the leg the true chesnut is plainly depicted. Both authors very properly give remedies for the cure of the disease.

The most serious matter is the charge against Youatt of mistaking "chesnuts" for the result of pathological changes. He is very properly called an "enlightened writer." He was more. He was an accurate observer. Youatt does not treat of "chesnuts," but of "mallenders and sallenders." He says (I quote from the first edition, 1831, page 273), "In the inside of the hock, or a little below it, as well as at the bend of the knee, there is sometimes a scurfy eruption called mallenders in the fore-leg, and sallenders in the hind-leg. They seldom produce lameness, but if no means are taken to get rid of them a discharge proceeds from them, which it is afterwards difficult to stop; and certainly they have an unsightly appearance, and generally argue bad stable management." After giving this description of mallenders and sallenders he certainly does "prescribe remedies, both external and internal, for getting rid of them," and his treatment is in every way a rational one. If his words did not prove that he was not committing the blunder Sir William Flower attributes to this "enlightened writer," a turn to page 255 is conclusive on the matter, where, in a woodcut showing the fore leg of a horse, the seat of a mallender and its appearance are specially shown, while the chesnut is also figured in its proper place, though no reference is made to the latter in the text. Gamgee, in "Domestic Animals in Health and Disease," says, page 130, "In the horse simple eczema is seen in its well-known characteristics, and chronic eczema or psoriasis in the cases of 'mallenders' and 'sallenders.'"

I am not connected with the veterinary profession. I think it, however, only fair that the name of William Youatt, who has done so much for it, and who first in this country popularised a knowledge of the anatomy and physiology of the horse, and to whom breeders of stock owe so much, should not be handed down to posterity as that of one who mistook common pathological changes for those "special modifications of particular parts of the cutaneous surface" known as chesnuts. The error would be inexcusable even in a stable boy.

"PARASITIC DIARRHŒA" AND WASTING IN YOUNG STOCK.

Some cases of a new parasitic disease, of great importance and interest to farmers and breeders of cattle, have come under notice at the Veterinary Hospital this term.

Mr. Brain, of the Sewage Farm, Siddington, having lost several young cattle, from a wasting disease accompanied by a persistent diarrhœa, which prevailed in spite of any remedies used to suppress it, kindly offered us for investigation and instruction a young steer about fifteen months old, which had been suffering with the disease for several months.

The appearances of the animal on admission were those of extreme emaciation, sunken eyes, staring coat, visible mucous membranes pale and bloodless, profuse watery diarrhœa, with frequent switching of the tail, and straining. As the patient refused food of any kind, it was resolved to kill it, and have a post-mortem examination.

In conjunction with my colleague, Prof. Harker, we made a careful and searching post-mortem on Monday, June 19th. On opening the chest, the lungs were very pale and bloodless, presenting no organic disease, the heart was pale and flabby, the blood in the cavities was thin, with considerable quantity of pericardial fluid. The abdominal organs, with the exception of the liver, which was very pale and soft, appeared to the naked eye to present no cause for this extreme emaciation. The mesenteric glands were somewhat dark in colour on section, and the structure of the kidneys pale. The stomachs and intestines were carefully examined as follows:—

(*a*) Rumen—was partially full of dry semi-digested hay, the mucous membrane healthy.

(*b*) Reticulum—contained a little fluid, the mucous membrane was healthy.

(*c*) Omasum—food between the leaves dry, but presenting a healthy appearance.

(*d*) Abomasum—contents were fluid of a dirty green colour, which were collected (vide infra), the mucous membrane was inflamed, and patches here and there of white diphtheric deposit (a scraping of which was collected for microscopical examination).

The small and large intestines contained a quantity of fluid, and here and there small areas of inflammation, which became more pronounced towards the rectum.

Prof. Harker examined microscopically the contents and scrapings of the abomasum and bowels, with the result as seen in his report.

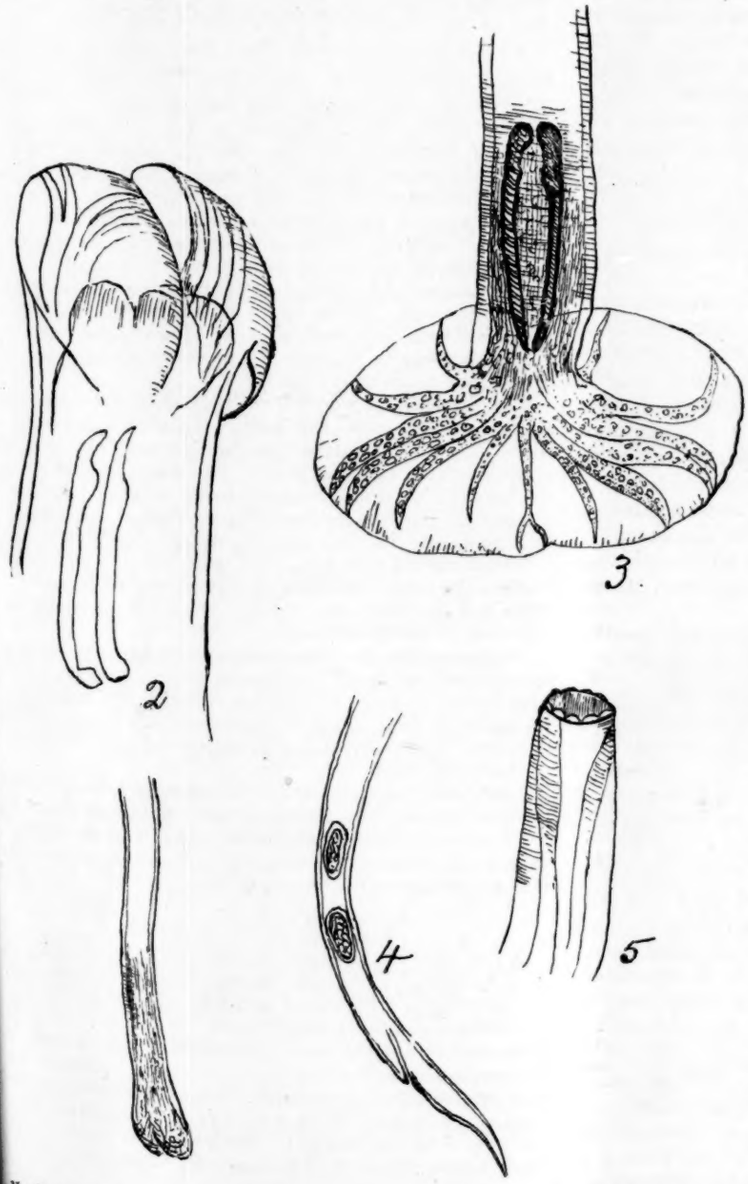
On Tuesday, June 20th, two heifers (cases 2 and 3) from Mr. Brain's farm, were admitted as patients for treatment. The animals presented exactly the same conditions as the preceding one, and had both then evidently been suffering from the disease for some months.

June 21st. The first treatment consisted in giving to each animal 1½ oz. of turpentine in a quart of linseed gruel, followed at mid-day and evening by 2 drachms of powd. sulphate of iron in 1½ pints of gruel. Another dose of turpentine in gruel was given

on the morning of the 22nd, and the sulphate of iron continued.

June 23rd. Turpentine discontinued, the same dose of iron in gruel given three times a day. Samples of the fæces were collected for microscopical examination from both patients, when Prof. Harker found large numbers of dead worms and eggs were discharged.

This treatment was continued daily, but in spite of all efforts to check the excessive diarrhœa in the red heifer (case 2), she was found dead on Monday July 3rd. I made a post-mortem in the morning, and found the lungs and other organs of the body quite pale and bloodless, the blood in the heart very thin. There were no signs of diphtheric deposit, or patches of inflammation in the abomasum or intestines. Samples of the fluid and scrapings from the bowels were taken for examination.



Case No. 3.—Continued to improve rapidly under the treatment, she very quickly regained her appetite, and the iron medicine was discontinued Wednesday, July 3rd, and she was discharged on July 12th. Her weight on admission was 3½ cwt. and when weighed on Monday, July 10th, two days before she was discharged, she scaled 4 cwt. 14 lbs.

We gather from these cases, (1) that isolation of animals showing signs of diarrhœa should be made, and a careful microscopical search for parasites, after collecting the fæces and mixing it with distilled water, and allowing to stand for a few hours, decanting the fluid and examining the sediment; (2) doses of turpentine in gruel (if parasitic diarrhœa), followed by iron treatment and good food.

In conclusion I have to express my best thanks to my pupils, Messrs. Dennehy and Bird, for their care and attention to these animals.

W. T. Wilson.

ON AN APPARENTLY UNDESCRIBED *STRONGYLUS* FROM THE OX.

An examination of the green-coloured semi-fluid contents of the abomasum of the steer, on which a post-mortem examination was held as described in Professor Wilson's paper (supra), disclosed a vast number of a small living species of *Strongylus*. The Nematodes settled to the bottom of the vessel containing the fluid among the partially digested fibres of vegetable food, and were present in dozens in each dip of the pipette. The scrapings from the patches of white deposit on the mucous membrane further exhibited the presence of the parasites in even greater numbers. There could be little doubt that they were the cause of the disease from which the animal was suffering,

I subsequently examined from day to day the excreta of the two animals under treatment. A very great number of the eggs of the strongyle, which I had identified from its presnce in the uterus of the female worm, were present in the excreta. In many scores of separate examinations I only once failed to find these eggs. On one occasion, in the case of steer "2," I found a quantity of dead worms.

The nematodes consisted of both males and females, the former, however, preponderating in the proportion of at least 2 to 1. All, so far as I can judge, were adult worms, or nearly so, the females in a majority of cases having eggs in their uteri. The

males varied in size, and this may have represented immaturity in the smaller ones, or mere variability. The interesting question arises; What is the species of *Strongylus*? I was obliged to place all my specimens in weak alcohol soon after taking them from the dead hosts, as I found they speedily began to decompose. This naturally rendered a complete study of their detailed anatomy more difficult than in the case of fresh specimens. But I succeeded in getting a very complete drawing of the "bursa" or pouch of the male, the characteristic feature of the *Strongylidae* (Figs. 1, 2, 3), and of the mouth of the female (Fig 5). I have still to find with certainty the vulva of the female, also a character of some importance.

Dr. O. Von Linstow, in his "Compendium der Helminthologie," describes four species of strongyles as parasites of the Ox; namely,

Strongylus micrurus, Mehlis,—trachea
,, *radiatus*, Rud.,—Intest u. duoden.
,, *inflatus*, Schneider,—Intest u. colon.
,, *ventricosus*, Rud,—Intest.

Neglecting *S. micrurus*, with which we are very familiar, none of the other three species appear to be common in Oxen, in this country at all events; it seems all the more important therefore to determine if possible the species to which the present species belongs. In Dr. Anton Schneider's "Monographie der Nematoden," will be found descriptions with some figures of the three species above mentioned.

Strongylus radiatus, R, is said to have a bursa of the form of *S. cernuus* (a species from the sheep), a figure of which is given, but it bears no resemblance to our species. The mouth parts are also unlke, being naked in this species.

Strongylus inflatus, Schneider, found in the colon of the Ox, similarly differs, the mouth being of different form. Our species most closely resembles the descriptions of *S. ventricosus*, R. In fact my figure of the "bursa" might almost have been copied from Schneider's. The size however differs. Schneider gives 11·5mm as the length of the female, whereas in our specimens the average is 8—9mm for the male and 15—16mm for the female. The thickening of the cutis before and behind the vulva, which Rudolphi, the founder of the species described, "Vulva pone partem gibbosam," has not been observed by me, and is such a conspicuous character that one could hardly have failed to notice it, especially as I sought for some days for the vulva. I am on the whole inclined to think that this may prove to be an undescribed species of *Strongylus*, very closely allied to *S. ventricosus*, Rud., but before describing as new and giving it a name as such, I prefer to make more careful examination of the material I have, or fresh living worms which I may procure. So far as this brief preliminary Report goes it must stand as follows:—

Strogylus. Species?

Figure 1. Male-copulatory pouch natural appearance × 40.
,, 2. The same × 150.
,, 3. The same—open × 150.
,, 4. Posterior 1/10th female.
,, 5. Mouth of female.

Female 15—16mm; Male 8—9mm.

Body of a light brown; round, anteriorily truncate, head small and narrow. Papillæ very small, rounded or bicular, six in number. Bursa large as broad as long, resembling Schneider's figure of *S. ventricosus*, R. Sheaths of the penis short. Vulva not found.

In the abomasum of *Bos taurus*, causing inflammation of membranes and wasting diarrhœa. Gloucestershire.

R.A.C., 31st July, 1893. ALLEN HARKER.

From *The Agricultural Students' Gazette*, Cirencester.

A DISEASE OF CATTLE.

A recent number of *The Live Stock Journal* contained the following. We should be glad to hear what the general practitioner has to say.

"We still continue to hear of losses in cattle as the result of feeding on bracken and the leaves of the oak during the recent drought. Professor Axe, who has made several investigations in different parts of the country, informs us that the disease appeared shortly after the showers which closed the droughty period. At this time bracken threw out a large growth of young shoots, which, in the absence of a sufficiency of grass, were greedily consumed by stock. So far as we have been able to gather, young animals have suffered most, if not exclusively, older animals appearing to have the power of withstanding the deleterious effect of the plant.

The disease first shows itself by a general dulness and a staring condition of the coat. This is followed by a slight discharge of saliva from the mouth, and in some instances from the nose also. The head is carried low, the ears droop, and the movements become feeble and unsteady. In the course of the disease an offensive diarrhœa sets in, and continues to the end. The temperature rises 4 to 6 deg., and the pulse is quick and feeble. In some instances swellings appear between the jaws and beneath the throat, resulting in slight disturbance in the breathing.

Professor Axe has repeatedly examined the blood of animals affected with the disease, but no organisms have been found to which it can be referred. The disease runs its course in from three to eight days, and unless suitable measures of treatment be promptly adopted, it usually proves fatal.

This leads us to caution those who intend feeding bracken during the coming winter to guard against its too free use. Added to a fair amount of ordinary food, bracken is harmless enough, but given in large quantities it is unquestionably poisonous.

A Horse Stung to Death.

A few days ago a horse, valued at £35, belonging to Mrs. Longrigg, Slapestone House, Battlebarrow, Appleby, was grazing in a field near Bandley when it came in contact with a couple of wasps' nests. The horse getting its head near one of the nests, the wasps at once swarmed on to the animal and stung it in a frightful manner. Its head was swollen very much. Mr. J. Armstrong, veterinary surgeon, Penrith, was sent for, but despite his efforts the poor beast succumbed. Such a case as this has never been known to occur in the district.—*The North Star.*

Performances of Show Dogs.

The *Boston Herald* says that "the show bulldog, Dockleaf, has been criticised by many persons, who averred that he could not walk half a dozen miles. This so nettled his breeder that he matched Dockleaf to walk 10 miles against another bulldog, King Orrey, with longer legs and less taking show form. At the end of the second mile poor Dockleaf gave in, while King Orrey kept going and covered the 10 miles in 2hrs. 7min. What is the value of such a dog as Dockleaf for any practical work."

Montagues and Capulets.

From the pages of *The Scottish Leader* we copy the following:—

"In Edinburgh there are two antagonistic schools of veterinary science—the Dick and the New Colleges. The students of the Dick College smile at the work carried on in the New College, and the students of the New College hold their brethren of the Dick institution in brotherly contempt. This pleasant rivalry is imported into all matters touching their future profession. Should one mention to a "Dick" student that a difficult cure has been affected at the New College, the student smiles a pitying smile, as if in compassion at lay ignorance. Attenders at the New College assert that the skill shown in the Dick College pales before the triumph of veterinary operations conducted at the New College. The fame of both colleges, however, is so wide-spread and acknowledged that they draw their students from all parts of Great Britain and Ireland, and references to the success of old students of the colleges can often be met with in glancing over the newspapers.

The twin subjects of pleuro-pneumonia and tuberculosis divide Principal Walley, of Dick, and Principal Williams, of the New College, as a chasm. Each being an expert of high standing, their testimony in courts of law is eagerly besought by the opposing parties. The two Principals were never known to agree over a diseased lung of a cow. Nothing in the cross-examination can shake their "leal and soothfast witnessing," as the law terms evidence. Sometimes they cannot even agree as to whether or not a horse is lame. When they meet in the City Police or Burgh Courts in a case, their healthy independence of view is extremely diverting to the spectators, and the presiding bailie has pardonable cause for confusion in striving to arrive at a decision. The sole point of resemblance between them—and it is negative at the best—lies in the fact that neither is a Scotsman.

Horse Diseases in Zanzibar

We referred some weeks ago to the necessity for the appointment of a properly-qualified Veterinary Surgeon in Zanzibar in view of the increasing disease among horses of which loud complaints were then being made. Glanders, farcy, and a disease which had not yet been diagnosed have long been prevalent in Zanzibar. The main reason is that the Sultan being an Arab will not destroy his horses when incurable, and these terrible horse diseases have become endemic. Mr. Rennell Rodd, the British Resident, has, we now learn, taken steps to provide for the better preservation of horses belonging to Europeans and others in Zanzibar who are anxious to adopt some such measures as we suggested. Residents have been asked to subscribe a small sum monthly towards the maintenance of a competent Veterinary Surgeon, the intention being to guarantee him a fixed salary, for which he shall be required to attend horses belonging to subscribers regularly and free of charge—*Bombay Gazette.*

CORRESPONDENCE

DOUBLE CONCEPTION.

SIR,

The following, as far as my limited experience goes, unique case of "double conception" (for lack of a more scientific term) may interest some of your readers from a practical if not scientific aspect.

A client of mine, a large dairyman and stockowner, purchased in April last, a shorthorn cow, on the understanding that she was five months gone in calf. A few days after her arrival at her new quarters she was noticed as being in œstrum and was accordingly put to the bull, the vendor's statement as to her pregnancy naturally being at a discount.

On the 9th inst. she was delivered of a strong healthy calf and, to the astonishment of everyone concerned, immediately afterwards, a fœtus, perfectly formed in every way with the exception of a total absence of hair, which from analagous reasoning would argue its age to correspond with the second service in April last.

I shall be glad to hear of any similar case on record.

Yours obediently, ARTHUR CRAPP.

August 23rd. 1893.
Edgware, N.W.

HOLBROOK'S CASE.

SIR,

In reference to the above case, will someone kindly give me a proper definition of this misdemeanour in this case.

The College does not prevent men from practising without a degree, because any man can put on a board "John Thomas. Infirmary for horses, dogs, cats, etc. Medicines supplied at a cheap rate," and he can go on practising for years provided he calls himself nothing. I do not believe it comes under the Druggists Act. What are we to do?

Is it wrong for a V.S. to have a board with his own name on over a shoeing forge? for there are plenty in the profession who do so.

As far as I can see the profession neither protects its members, or the law either.

AN ENQUIRING MEMBER.

THE SUMMER SESSION.

SIR,

It is with great pleasure that I read in your valuable paper so many letters from veterinary students.

I do most heartily endorse the views of a "Grieved Student" especially as to the opening of the College on the 1st September and closing on the 1st April. There would then be five clear months for students to study the practice, who really mean doing something to bring the veterinary profession to, if possible, greater fame. As "G.S." says, some people might say "why not stop at College during the vacation." So far so good, but where is the *working student* who would rather stay at College than go with a good vet. down in the country, and see a thoroughly genuine all-round practice? I contend that to a self interested student a summer vacation must be beneficial to both health and knowledge, especially to those whose pale faces suggest that the dissecting room in summer must be most trying and tedious.

Now why is it we are to have this summer session, is there more to be taught and learnt than heretofore? If so it appears to me that the four years course in place of the three will amply provide the time necessary. I do think that we might have a somewhat satisfactory explanation of it.

Is it not possible for the Governors to alter their decision even now? if only in a modified form, and thereby not only confer a benefit on those students who are deficient in practical knowledge, but also on those who are nearing the end of their course.

In conclusion I may say that all intending students would derive great benefit before attending at College, if compulsory pupilage were made law.

Apologising for the length of this letter and sincerely hoping that the Governors may see their way clear to obviate this grievance.—Yours truly,

AN ANXIOUS STUDENT.

MECHANICAL LAMENESS.

SIR,

I have read with much interest your remarks on mechanical lameness and also the report of the cruelty prosecution at Westminster Police Court. I have lately been called upon to give my opinion in a somewhat similar case and unhesitatingly pronounced that there was no pain present, although to all appearances the animal was very lame. My opinion was founded upon the following facts:—(1) The animal was in good condition, (2) did not sweat more than natural on a journey, (3) no heat or tenderness on manipulation, (4) no flinching when the joint was flexed, (5)no more lameness at the start than at the end of a journey.

To my mind, a horse at daily work and yet in good condition cannot suffer much pain; again, if much pain is present I would expect to find the animal sweating excessively whilst at work.

In your report of the case at Westminster I am much struck by the remarks which Mr. Sheil makes. First, he disclaims being a practical veterinary surgeon and then deliberately states that "he would not believe the whole profession if they said that horse was not in pain." Such a statement must be extremely gratifying to us as a profession! Mr. Sheil must have no small opinion of himself and a very small opinion of the veterinary profession. Even to the veterinary surgeons who gave evidence for the prosecution, his remarks are anything but flattering. Mr. Sheil believes them, *only* because their opinion is the same as *his own*. It was not the evidence called for the prosecution that procured the conviction, it was *Mr. Sheil's own opinion*.

I am of opinion that veterinary surgeons are to a large extent being made tools of by the "cruelty" society, and that we want to be more on our guard.

Yours faithfully, CÆTERA DESUNT.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. H. R. Love, C. Morgan, H. Begg, J. Barr, T. A. Huband, A. Crapp, "An Enquiring Member," "An Anxious Student," "The Oldham Chronicle."

Veterinary Societies—Addresses.

BOMBAY V.M.A.
Pres: Capt. Jas. Mills, M.R.C.V.S.
Vice-Pres: Messrs. S. K. Nariman, M.D., B. SC., L.V.SC. N. D. Dhakmarwalla, G.B.V.C. S. N. Ranina, G.B.V.C. N. Narsing Rao, G.B.V.C.
Sec: V. E. Vakharia, G.B.V.C., Bombay Veterinary College.

BORDER COUNTIES V.M.S.
Pres: Mr. R. Rutherford, F.R.C.V.S., Edinburgh
Hon. Sec: Mr. J. Armstrong, F.R.C.V.S., Penrith, Cumberland
Meetings, Second Friday of Feb., June, and October.

CALCUTTA V.M.A.
Pres: Mr. Greenhill, M.R.C.V.S.
Hon. Sec: Mr. T. Assheton Smith, 156 Dhurrumtollah.

CENTRAL V.M.A.
Pres: Mr. W. Roots, M.R.C.V.S., 13 Winchester Street, London, S.E.
Hon. Sec: Mr. H. G. Rogers, M.R.C.V.S., 170 Brompton Road, London, S.W.
Meetings, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A.
Pres: Mr. F. Low, M.R.C.VS., Norwich.
Hon. Sec.: Mr. W. Shipley, Jnr., Southtown, Gt. Yarmouth
Meetings, Second Tuesday, Feb. and July.

VET. MED. ASSN. OF IRELAND.
Pres: Mr. T. D. Lambert, F.R.C.V.S. Store Street, Dublin.
Hon. Sec Mr. J. McKenny, M.R.C.V.S., 116 Stephens-green-west, Dublin.

LANCASHIRE V.M.A.
Pres: Mr. A. Taylor, F.R.C.V.S, Turner Street Manchester.
Hon. Sec: Mr. J. B. Wolstenholme, F.R.C.V.S., Quay Street, Manchester.
Meetings, 1st Thursday in March, June, Sept., & Dec.

LINCOLNSHIRE V.M.S.
Pres: Mr. J. Smith, M.R.C.V.S., Huntingdon.
Hon. Sec: Mr. Robinson, M.R.C.V.S., Market Deeping.
Meetings, Second Thursday, Feb., June and October.

MIDLAND COUNTIES V.M.A.
Pres: Mr. T. H. Merrick, F.R.C.V.S., Northampton.
Hon. Sec: Mr. H. J. Dawes, M.R.C.V.S., High St., West Bromwich.
Meetings, Second Friday in Feb., May, November, Second Tuesday in August.

NATIONAL VET. ASSOCIATION.
Pres: Mr. E. Faulkner, M.R.C.V.S., Manchester
Sec: Mr. John Malcolm, F.R.C.V.S., Birmingham
Treas: Mr. F. W. Wragg, F.R.C.V.S., London.
Sec. of Prov. Com: Vet.-Lieut. J. A. Meredith, Manchester.

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.
Pres: Mr. Peter Taylor, F.R.C.V.S., Manchester
Treas: Mr. Thomas Greaves, F.R.C.V.S., Manchester
Hon. Sec: Mr. Sam. Locke, M.R.C.V.S., Grosvenor Street, Oxford-st., Manchester

NORTH OF ENGLAND V.M.A
Pres: Mr. W. Hunter, M.R.C.V.S, Newcastle.
Hon. Sec: Mr. W. A. Hancock, M.R.C.V.S., Forest Hall, Newcastle-on-Tyne.
Meetings, Third Friday, Feb., May, Aug. and Nov.

ROYAL COUNTIES V.M.A.
Pres: Mr. J. D. Barford, F.R.C.V.S., Southampton.
Hon. Sec: Mr. J. Sutcliffe Hurndall, M.R.C.V.S., Sussex Villas, Cornwall Gardens, South Kensington.
Meetings, Last Friday, Feb., June and Nov.

ROYAL SCOTTISH V.S.
Pres: Mr. Reid, M.R C.V.S, Auchtermuchty.
Hon. Sec: Mr. W. D. Fairbairn, M.R.C.V.S., Cupar, Fifeshire

ROYAL VETERINARY COLLEGE M.A.
Pres: Mr. Wild.
Hon. Sec: Mr. P. D. Coghill. *Assist. H.S.* Mr. E. E. Seldon.

SCOTTISH METROPOLITAN V.M.S.
Pres: Prof. W. O. Williams, F.R.C.V.S., New Vet. Coll., Edin.
Hon. Sec: Mr. P. Moir, M.R.C.V.S., 9 Kilmain Terr. Edinbro'

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
Pres.: Mr. F. R. Stevens, M.R.C.V.S., Darlington.
Hon. Sec: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Meetings, First Friday, Mar., June. Sept. and Dec.

SOUTHERN COUNTIES V.M.S.
Pres: Mr. J. F. Simpson, F.R.C.V.S, Maidenhead.
Hon. Sec: Mr. C. Pack, M.R.C.V.S., Lymington, Hants.
Meetings, Last Thursday, Mar., June and Sept.

SOUTH WALES AND MONMOUTHSHIRE V.M.A.
Pres: Mr. D. M. Storrar, M.R.C.V.S, Abergavenny.
Hon Sec. Mr. A. C. Stewart, M.R.C.V.S., Cardiff.
Meetings, First Thursday in March, and Autumn.

WESTERN COUNTIES V.M.A.
Pres: Mr. Thomas Olver, M.R.C.V.S., Truro.
Hon. Sec: Mr. W. Harvey Bloye, M.R.C.V.S., Ebrington Street, Plymouth.
Meetings, Third Thursday, March and September.

WEST OF SCOTLAND V.M.A.
Pres: Mr. D. Allan, M.R.C.V.S., Clarkston-by-Busby, Glasgow
Hon. Sec: Mr. W. Anderson, F.R.C.V.S., West Nile-st. Glasgow

YORKSHIRE V.M.A.
Pres; Mr. G. E. Bowman, Woodhouse Lane, Leeds.
Hon. Sec; Mr. W. F. Greenhalgh, M.R.C.V.S., 110 North Street, Leeds.
Meetings, Last Friday in Jan., April, July, and October.